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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,799	04/13/2006	Detlef Bolz	5000.P0095US	3554

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EXAMINER

REESE, ROBERT T

ART UNIT	PAPER NUMBER
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3657

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/575,799	Applicant(s) BOLZ, DETLEF	
	Examiner ROBERT T. REESE	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/13/2006, 7/17/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is a first Office Action Non-Final rejection on the merits.

Claims 1-10, as originally filed, are currently pending and considered below.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Itoh (2002/0084146).

As per claim 1, Itoh discloses: A device (abstract)for producing an aerosol, with a liquid line (13) for a liquid flow and a transport gas line (3) for a transport gas flow, with at least one injector unit (5), in which the liquid flow and the transport gas flow can be mixed to form an aerosol, and with an aerosol line (14), which leads to an aerosol discharge (14a) arranged in the region of a tool, characterized in that the injector unit (5) has flow conducting means for the transport gas flow (outside of 5c) which define a sucking-in and atomizing function for the liquid flow when there is a pressure loss for the transport gas flow which is less than a minimum possible pressure loss at the aerosol discharge (property of a venturi injector).

As per claim 2, Itoh discloses: a channel portion for the transport gas flow (outside of 5c) and a channel region for the liquid flow (inside of 5c) are arranged coaxially in relation to each other within the injector unit (5).

As per claim 3, Itoh discloses: the channel portion for the transport gas flow is configured as an annular channel concentrically surrounding the channel region of the liquid flow (Depicted in Figure 2), and in that the flow conducting means comprise an annular constriction at the level of a stub-like end region of the channel region of the liquid flow, which together with an outer casing of the end region defines an annular gap (Depicted in Figure 2).

As per claim 9, Itoh discloses: an injector unit (5) for a device for producing an aerosol with at least one channel portion for a transport gas flow (outside of 5c) and at least one channel-region for a liquid flow (inside 5c), characterized in that the channel portion for the transport gas flow is configured as an annular channel concentrically surrounding the channel region of the liquid flow (Depicted in Figure 2), and in that the flow conducting means comprise an annular constriction at the level of a stub-like end region of the channel region of the liquid flow, which together with an outer casing of the end region defines an annular gap (Depicted in Figure 2).

As per claim 10, Itoh discloses: the channel portion for the transport gas flow (outside of 5c) narrows in a funnel-shaped manner in the direction of flow toward the constriction (Depicted in Figure 2), and an aerosol chamber portion (7) lying downstream of the end region widens in a correspondingly funnel-shaped manner in the direction of flow (Depicted in Figure 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh (2002/0084146).

As per claim 4, Itoh discloses all of the structural limitations of claim 3 above.

However, Itoh does not disclose: the annular gap is configured with dimensioning of < 0.5 mm, preferably of approximately 0.1 mm.

It could be ascertained by one with ordinary skill in the art at the time of the invention to optimize Itoh's lubricant atomizer through determining an optimal size for the annular gap by routine experimentation to achieve the desired performance of the injector. See MPEP 2144.05 (II) A.

6. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh (2002/0084146) in view of Shinichi et al. (JP2004/150451) in further view of Kaelberer (2004/0124265).

As per claim 5, Itoh discloses all of the structural limits of claim 1 above.

However, Itoh does not disclose: pressure sensing means are provided in the region of the transport gas line and in the region of the aerosol line.

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Shinichi et al. discloses a spraying apparatus for spraying oil with pressure sensing means are provided in the region of the transport gas line (1) and in the region of the aerosol line (8) (Depicted in Figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Itoh's lubricant atomizer by incorporating the pressure sensing means of Shinichi et al. as a way to monitor the performance of the atomizer while in operation, and verify the proper function of the injector.

Further Itoh does not disclose: a control unit is provided, which, depending on a comparison of actual pressure values sensed by the pressure sensing means with set pressure differential values stored in a set value memory on the basis of various parameters for different machining operations, controls a differential pressure between the pressure in the transport gas line and the pressure in the aerosol line.

Kaelberer discloses a device and method to produce an aerosol which includes a control unit (10) which, depending on a comparison of actual pressure values sensed by the pressure sensing means (11) with set pressure differential values stored in a set value memory (Paragraph 70) on the basis of various parameters for different machining operations, controls a differential pressure between the pressure in the transport gas line and the pressure in the aerosol line (paragraphs 45, 67-68, and 70-75).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Itoh's lubricant atomizer by incorporating the

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Kaelberer's control unit as a means to automatically control the atomizer as a way to optimize the production of lubricant aerosol.

As per claim 6, Kaelberer teaches: the control unit (10) is assigned a control program, which activates at least one functional unit of the device (Paragraph 68), in particular an aerosol producer, with different control commands and in each case performs differential pressure measurements by means of the pressure sensing means (11) (Paragraphs 70-72), and in that a comparison of the sensed actual values of the differential pressure measurements with corresponding set values of the set-value memory is performed (Paragraph 71), and finally a preselection of appropriate parameters is made from the set-value memory (Paragraph 71).

As per claim 7, Itoh discloses: an actuating element (2) in the gas transport line (3) controlling flow in the injector.

However, Itoh does not disclose: that a number of injector units are provided in parallel connection.

It could be ascertained by one with ordinary skill in the art at the time of the invention to add additional injectors in parallel connection as a way to provide redundancy and increase reliability of the atomizer. See MPEP 21144.04 (VI) B.

As per claim 7 Kaelberer teaches that the actuating element can be activated by the control unit (10) in such a way that at least one injector unit is permanently functioning (Paragraphs 64 and 68).

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As per claim 8 Kaelberer teaches that the activation of the actuating elements by the control unit (10) takes place in dependence on corresponding control defaults of the set-value memory (Paragraph 70).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sherrington (2003/0047386) discloses a lubrication control system. Gregory et al. (5,125,480) discloses a lubrication system. Reinosa (5,782,315) discloses an oil filter pump.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT T. REESE whose telephone number is (571) 270-5794. The examiner can normally be reached on M_F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RTR

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art
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